

Application No. 09/966,873
Amendment dated October 25, 2005
Reply to Office Action of July 25, 2005

Docket No.: 30521/601A

REMARKS

STATUS OF THE CLAIMS

Claims 3-6, 8-11, 14-20 and 25-29 remain pending in the application, and stand rejected. Claim 1-2, 12-13, 24 and 30-31 are canceled, without prejudice, as being directed to a non-elected invention. The applicant reserves the right to bring claims of the same or similar scope of these claims in a divisional application. Claims 7-9 and 21-23 are canceled in view of the amendments to claims 3 and 17, respectively. All claims are now in a condition for allowance and such action is requested.

CORRECTION OF INVENTORSHIP

Due to a restriction requirement and a provisional election in response to the restriction requirement, inventorship of the instant application is amended according to 37 C.F.R. 1.48(b). Accordingly, please remove Daniel Max Warren as inventor. Applicants acknowledge that the invention of Daniel Max Warren is no longer claimed in the instant application.

Applicants authorize the Commissioner is directed to charge or credit Deposit Account No. 13-2855 of Marshall, Gerstein & Borun LLP in the amount of \$130.00 required under 37 C.F.R. 1.48(b) for the correction of inventorship. No other fees are believed to be due. However, if there are any additional fees or refunds required, the Commissioner is further directed to charge or credit Deposit Account No. 13-2855 of Marshall, Gerstein & Borun LLP.

Claims 3, 4, 5, 17 and 18 are rejected in the Office action as being anticipated by Ehrlich US 3,860,928 ("Ehrlich"). The applicant submits the rejection is moot in view of the amendments to claims 3 and 17. Withdrawal of the rejection is respectfully requested.

Claim 3, 4, 7-11, 14, 17, 18, 21-23 and 26-29 are rejected in the Office action as being unpatentable over Bradley et al US 5,463,694 ("Bradley") in view of Boone et al US 6,741,713 ("Boone"). The applicant respectfully traverses the rejection.

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Claims 3 and 17 are amended to *inter alia* recite that the multi-order directional signal is high pass filtered while the first-order directional signal is low pass filtered. This limitation is further recited in the original in claims 14 and 26-29. The combination of Bradley and Boone fail to teach or suggest this limitation, and therefore independent claim 3, 14, 17 and 26-29 are allowable over the combination.

Neither Bradley, Boone nor the combination of Bradley and Boone teach a microphone array wherein the microphones of the array are configured to provide a multi-order directional signal and a first order directional signal and wherein the multi-order directional signal and the first order directional signal are respectively high pass filtered and low pass filtered. As such, the pending claims are allowable over Bradley, Boone and/or the combination.

Bradley does not teach high pass filtering of a multi order directional signal. Moreover, Bradley does not teach or suggest, as suggested by the examiner, the combination of a first order directional signal with a multi order directional signal by summing. The examiner suggests it would be obvious to modify Bradley such that the multi order directional signal could be summed with an intermediate signal (the examiner points to signal 208 which does not appear in the written description or drawings; for purposes of responding the applicants assume the examiner is referencing any signal of lower order than the multi order directional signal 131). However, there is no teaching or suggestion in Bradley to make such a combination, nor any suggestion that doing so would have any benefit.

To make the multi order directional signal 131, Bradley teaches combining lower order directional signals not combining multi order directional signals with other signals. There is simply no teaching or suggestion in Bradley to combine the multi order directional signal with a lower order directional signal to obtain higher directivity as asserted by the examiner. This assertion appears only to come from the applicants own written description. Furthermore, there is no reason to believe combining the multi order directional signal 131 with a lower order directional signal will result in higher directivity, as asserted by the examiner, where, as the applicant has explained, without further adaptation of the multi order directional signal the added complexity of the multi order system is of little value (See page 13, line 23-page 14, line 11 of the instant application). Thus, it cannot be assumed

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without some teaching or suggestion in the cited references themselves that one of ordinary skill in the art would combine the multi order directional signal 131 with a lower order directional signal of Bradley to achieve higher directivity.

Next, there is no teaching or suggestion in Bradley, Boone or the combination to high pass filter the multi order directional signal and low pass filter the first order directional signal. There is no teaching or suggestion whatsoever in Bradley to provide any such filtering. Boone also fails to suggest this aspect of the claimed invention. Boone teaches only the pairwise combination of omni-directional microphones m1, m2 and m3, with one pair configured for high frequency response and the second pair configured for low frequency response. In either case, the pairwise combinations provide only a first order response, not a multi order response. Next, the low pass configured combination is low pass filtered while the high pass configured combination is high pass filter, which is perfectly logical. Again, however, as there is no multi order directional signal, there is no suggestion that such a signal is to be high pass filtered. In fact, Boone is even silent as to why one first order signal over the other first order signal is high or low pass filtered.

For all of the foregoing reasons, the applicant submits that the claims are patentable over Bradley, Boone and the combination of Bradley and Boone. Such action is requested at the earliest opportunity.

The action also rejects claims 5, 6, 19 and 20 as unpatentable over the combination of Bradley and Boone in further view of Zoels. However, as asserted above, the proffered combination of Bradley and Boone fails to teach or suggest summing a high pass filtered multi order directional signal and a low pass filtered first order directional signal. Therefore, for at least those reasons, claims 5, 6, 19 and 20 are allowable over the combination of Bradley and Boone and Zoels, notwithstanding the asserted teaching of Zoels.

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In view of the above amendment, applicant believes the pending application is
in condition for allowance.

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Respectfully submitted,

By 
Anthony G. Sitko

Registration No.: 36,278
MARSHALL, GERSTEIN & BORUN LLP
233 S. Wacker Drive, Suite 6300
Sears Tower
Chicago, Illinois 60606-6357
(312) 474-6300
Attorney for Applicant